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The diagram illustrates a power supply system 200. It begins with a 'WALL CONTROL UNIT' connected to a transformer. The transformer's secondary is connected to a 'RECTIFIER' and a 'PLC FILTER'. The system then branches into several parallel paths, each with a diode (D1-D10) and a resistor (R1-R10). These paths lead to a 'PFC' (Power Factor Correction) stage, which includes a 'PFC RECOVER & REDUCOR', 'PROTECTION LOGIC', and '1A RECTIFIED BALLAST DIMENSIONER TUBES SELECTION'. The output of the PFC stage goes to a 'CENTRAL SUPERVISOR LOGIC' block. This block is also connected to a 'BALLAST DIMENSIONER LOGIC' block and a 'DC/AC' stage. The DC/AC stage includes a 'DC/AC PULSE MODULATOR', 'PULSE LOGIC', and 'PROTECTION LOGIC'. The output of the DC/AC stage goes to a 'RETARDED OSCILLATOR DRIVER' block, which is connected to a transformer. The secondary of this transformer is connected to a filter capacitor (C1) and a load (L1). The system is powered by a 'VCC' line and a 'GND' line.

A power controller for fluorescent lamp dimming is disclosed, using all digital internal and external programmable controls. A specific ASIC is described. A gate array and microcomputer share parallel functions with fast sub-functions carried out by the gate array and slower sub-functions carried out by a micro-processor. Circuits are provided for automatic shut down when a high frequency ground fault is detected; for connecting the filaments of gas discharge lamps in a series/parallel circuit; for driving the load as close to resonance as possible but in an inductive mode; and for developing a dead time between high side and low side switches which is related to transformer current, switch current, bridge voltage or bridge voltage dv/dt.